09/890769

09890769 082600

FIG. 1

10E080 '69Z06850

FIG. 2

T02080 '69206860

FIG. 3A

REFERENCE TABLE

CONTENT MANAGEMENT INFO. 1
CONTENT MANAGEMENT INFO. 2
CONTENT MANAGEMENT INFO. 3
CONTENT MANAGEMENT INFO. 4
CONTENT MANAGEMENT INFO. 5
⋮

FIG. 3B

09/890769

FIG. 4

EXAMPLE OF REFERENCE TABLE

TITLE	ARTIST	COMPRESSION CODEC/NO. OF QUANTIZED BITS	PURCHASE FEE FOR PLAYBACK RIGHTS	SERVER LOCATION INFO.	PLAYBACK SOFTWARE INFO.
Poor Minor	Mr.Artist1	AAC · 128kbps	$3.00	URL OF SERVER 101	PLAYBACK SOFTWARE A
Yet Breaker	Ms.Artist2	AAC · 96kbps	$1.50	URL OF SERVER 102	PLAYBACK SOFTWARE B
Star on BusStop	Mrs.Artist3	Mp3 · 128kbps	$1.50	URL OF SERVER 103	PLAYBACK SOFTWARE C
Forgotten Hero	Sir.Artist4	AAC · 128kbps	$3.00	URL OF SERVER 104	PLAYBACK SOFTWARE A
Local SuperStar	Artist5 Jr.	AAC · 96kbps	$1.50	URL OF SERVER 105	PLAYBACK SOFTWARE C
Nightmare Come True	Mr.Artist6	AAC · 128kbps	$3.00	URL OF SERVER 106	PLAYBACK SOFTWARE A
Field of BlackHall	Sir.Artist7	Mp3 · 128kbps	$1.00	URL OF SERVER 107	PLAYBACK SOFTWARE B

FIG. 5

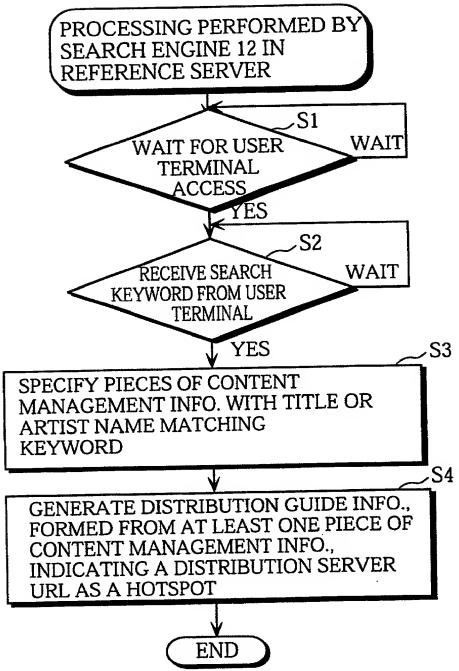

PROCESSING PERFORMED BY SEARCH ENGINE 12 IN REFERENCE SERVER
S1
WAIT FOR USER TERMINAL ACCESS
WAIT
YES
S2
RECEIVE SEARCH KEYWORD FROM USER TERMINAL
WAIT
YES
S3
SPECIFY PIECES OF CONTENT MANAGEMENT INFO. WITH TITLE OR ARTIST NAME MATCHING KEYWORD
S4
GENERATE DISTRIBUTION GUIDE INFO., FORMED FROM AT LEAST ONE PIECE OF CONTENT MANAGEMENT INFO., INDICATING A DISTRIBUTION SERVER URL AS A HOTSPOT
END

FIG. 6A

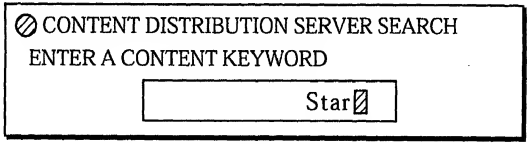


FIG. 6B

DISTRIBUTION GUIDE INFO.

Star on BusStop	Mrs.Artist3	Mp3 • 128kbps	$1.50	URL OF SERVER 103	PLAYBACK SOFTWARE C
Local SuperStar	Artist5 Jr.	AAC • 96kbps	$1.50	URL OF SERVER 105	PLAYBACK SOFTWARE C

FIG. 6C

RESULTS OF CONTENT DISTRIBUTION SERVER SEARCH

SEARCH RESULTS ARE AS FOLLOWS.

TITLE	ARTIST	COMPRESSION CODEC/NO. OF QUANTIZED BITS	PURCHASE FEE FOR PLAYBACK RIGHTS	SERVER LOCATION INFO.	PLAYBACK SOFTWARE INFO.
Star on BusStop	Artist3	Mp3 • 128kbps	$1.50	URL OF SERVER 103	PLAYBACK SOFTWARE C
Local SuperStar	Artist5	AAC • 96kbps	$1.50	URL OF SERVER 105	PLAYBACK SOFTWARE C

09/890769
ACTIUS00/32756

09/890769

FIG. 7

JP02001339660

FIG. 8

FIG. 9

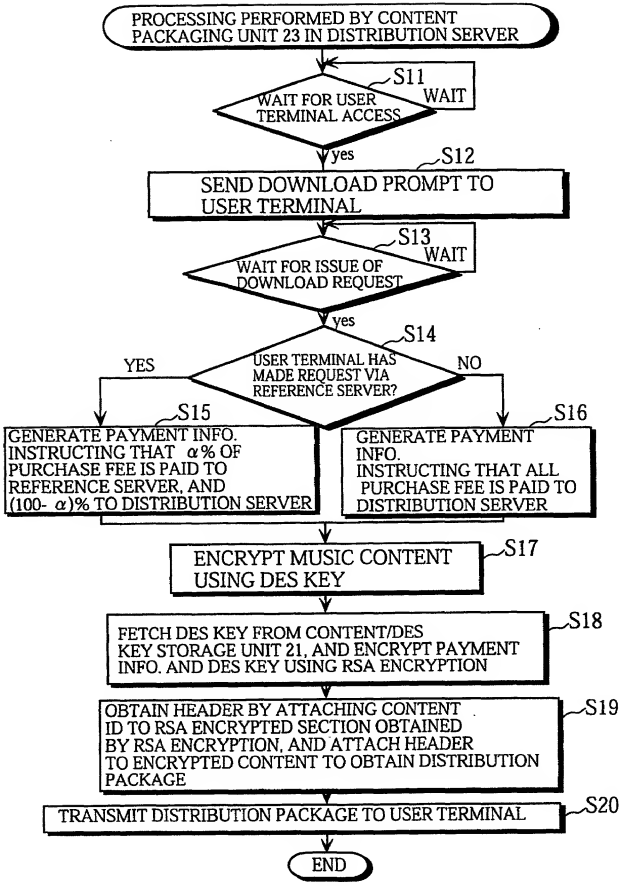

PROCESSING PERFORMED BY CONTENT PACKAGING UNIT 23 IN DISTRIBUTION SERVER
S11
WAIT FOR USER TERMINAL ACCESS
WAIT
yes
S12
SEND DOWNLOAD PROMPT TO USER TERMINAL
S13
WAIT FOR ISSUE OF DOWNLOAD REQUEST
WAIT
yes
S14
USER TERMINAL HAS MADE REQUEST VIA REFERENCE SERVER?
YES
NO
S15
GENERATE PAYMENT INFO. INSTRUCTING THAT α% OF PURCHASE FEE IS PAID TO REFERENCE SERVER, AND (100- α)% TO DISTRIBUTION SERVER
S16
GENERATE PAYMENT INFO. INSTRUCTING THAT ALL PURCHASE FEE IS PAID TO DISTRIBUTION SERVER
ENCRYPT MUSIC CONTENT USING DES KEY
S17
FETCH DES KEY FROM CONTENT/DES KEY STORAGE UNIT 21, AND ENCRYPT PAYMENT INFO. AND DES KEY USING RSA ENCRYPTION
S18
OBTAIN HEADER BY ATTACHING CONTENT ID TO RSA ENCRYPTED SECTION OBTAINED BY RSA ENCRYPTION, AND ATTACH HEADER TO ENCRYPTED CONTENT TO OBTAIN DISTRIBUTION PACKAGE
S19
TRANSMIT DISTRIBUTION PACKAGE TO USER TERMINAL
S20
END

FIG. 10

USER TERMINAL
DISTRIBUTION GUIDE INFO. DISTRIBUTION PACKAGE
SEARCH REQUEST, DOWNLOAD REQUEST
COMMUNI-CATION UNIT
30
DISTRIBUTION GUIDE INFO.
DISTRIBUTION PACKAGE
BROWSER
35
USER OPERATION
MENU SCREEN
36
PURCHASE FEE
RSA ENCRYPTED SECTION PAYMENT PROCESSING UNIT
DISTRIBUTION PACKAGE
DES KEY
ENCRYPTED CONTENT
INTERNALIZED DISK DRIVE
PACKAGE STORAGE AREA
32
PROTECTED AREA
34
DES KEY
33
USER DATA STORAGE AREA
ENCRYPTED CONTENT
31
PLAYBACK UNIT
37

FIG. 11

INDEX NO.	CONTENT ID	PACKAGE STORAGE LOCATION INFO.
1	USMEI9900001	C:/package/Song1
2	USMEI9903402	C:/package/Song2
3	JPMEI9900001	C:/package/Song3
4	JPMEI9800001	C:/package/Song4
5	USMEI9912345	C:/package/Song5
6	USMEI9900001	C:/package/Song6
7	UKMEI971344	C:/package/Song7

PACKAGE MANAGEMENT TABLE

09/890769

10280*69706868

FIG. 12

INDEX NO.	CONTENT STORAGE LOCATION INFO.	PURCHASE STATUS INFO.	KEY STORAGE LOCATION INFO.
1	C:/AudioData/Song1	PURCHASED	C:/Key/Song1
2	C:/AudioData/Song2	PURCHASED	C:/Key/Song2
3	_____	UNPURCHASED	_____
4	C:/AudioData/Song4	PURCHASED	C:/Key/Song4
5	_____	UNPURCHASED	_____
6	C:/AudioData/Song6	PURCHASED	C:/Key/Song6
7	C:/AudioData/Song7	PURCHASED	C:/Key/Song7

PURCHASE INFO. MANAGEMENT TABLE

FIG. 13

36
RSA ENCRYPTED SECTION
PAYMENT PROCESSING UNIT
PURCHASE FEE
②
④
ENCRYPTED CONTENT
③
DES KEY
①
DISTRIBUTION PACKAGE
INTERNALIZED DISK DRIVE
PACKAGE STORAGE AREA
32
PROTECTED AREA
34
⑤
DES KEY
33
USER DATA STORAGE AREA
⑥
ENCRYPTED CONTENT
PLAYBACK UNIT
37
⑦
PLAYBACK SOUND
31

FIG. 14

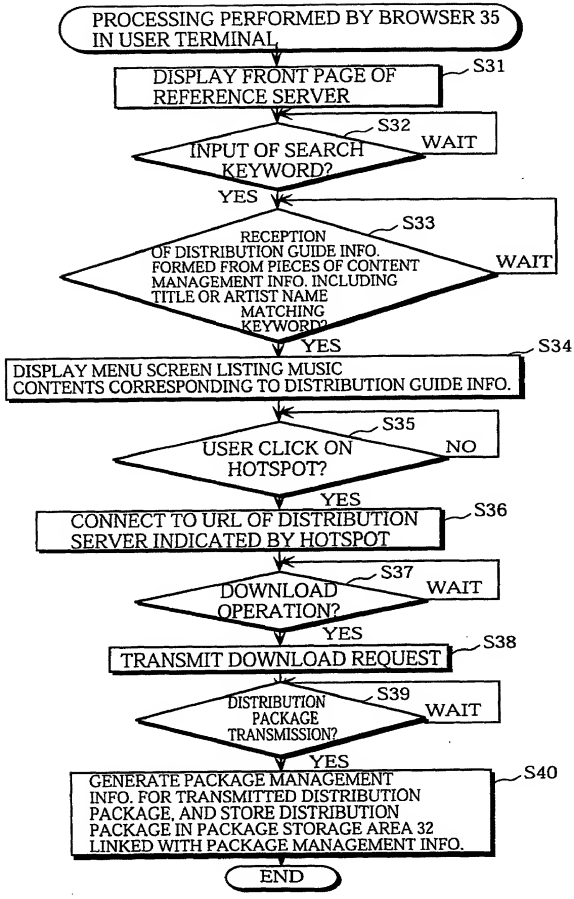
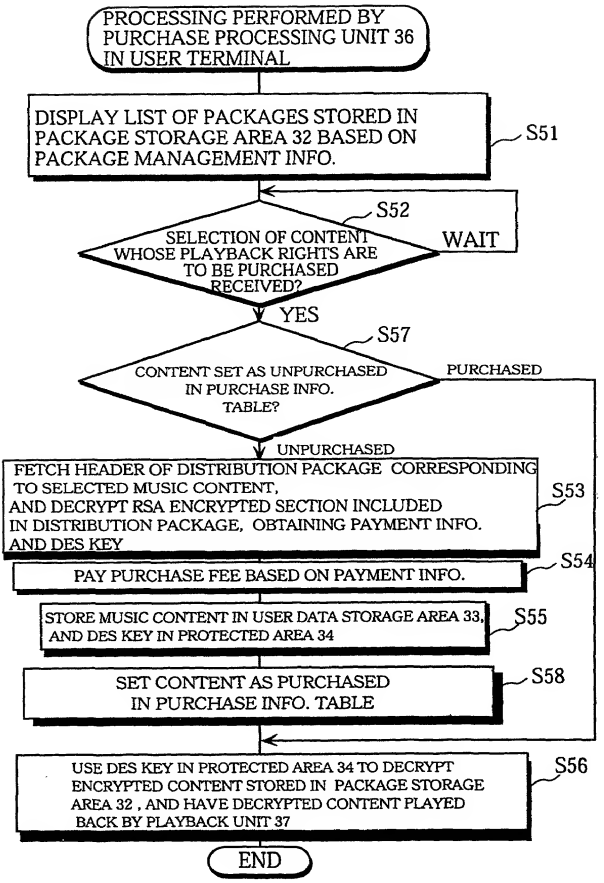

PROCESSING PERFORMED BY BROWSER 35 IN USER TERMINAL
DISPLAY FRONT PAGE OF REFERENCE SERVER
S31
INPUT OF SEARCH KEYWORD?
S32
WAIT
YES
RECEPTION OF DISTRIBUTION GUIDE INFO. FORMED FROM PIECES OF CONTENT MANAGEMENT INFO. INCLUDING TITLE OR ARTIST NAME MATCHING KEYWORD?
S33
WAIT
YES
DISPLAY MENU SCREEN LISTING MUSIC CONTENTS CORRESPONDING TO DISTRIBUTION GUIDE INFO.
S34
USER CLICK ON HOTSPOT?
S35
NO
YES
CONNECT TO URL OF DISTRIBUTION SERVER INDICATED BY HOTSPOT
S36
DOWNLOAD OPERATION?
S37
WAIT
YES
TRANSMIT DOWNLOAD REQUEST
S38
DISTRIBUTION PACKAGE TRANSMISSION?
S39
WAIT
YES
GENERATE PACKAGE MANAGEMENT INFO. FOR TRANSMITTED DISTRIBUTION PACKAGE, AND STORE DISTRIBUTION PACKAGE IN PACKAGE STORAGE AREA 32 LINKED WITH PACKAGE MANAGEMENT INFO.
S40
END

FIG. 15


PROCESSING PERFORMED BY PURCHASE PROCESSING UNIT 36 IN USER TERMINAL
DISPLAY LIST OF PACKAGES STORED IN PACKAGE STORAGE AREA 32 BASED ON PACKAGE MANAGEMENT INFO.
S51
S52
SELECTION OF CONTENT WHOSE PLAYBACK RIGHTS ARE TO BE PURCHASED RECEIVED?
WAIT
YES
S57
CONTENT SET AS UNPURCHASED IN PURCHASE INFO. TABLE?
PURCHASED
UNPURCHASED
FETCH HEADER OF DISTRIBUTION PACKAGE CORRESPONDING TO SELECTED MUSIC CONTENT, AND DECRYPT RSA ENCRYPTED SECTION INCLUDED IN DISTRIBUTION PACKAGE, OBTAINING PAYMENT INFO. AND DES KEY
S53
PAY PURCHASE FEE BASED ON PAYMENT INFO.
S54
STORE MUSIC CONTENT IN USER DATA STORAGE AREA 33, AND DES KEY IN PROTECTED AREA 34
S55
SET CONTENT AS PURCHASED IN PURCHASE INFO. TABLE
S58
USE DES KEY IN PROTECTED AREA 34 TO DECRYPT ENCRYPTED CONTENT STORED IN PACKAGE STORAGE AREA 32 , AND HAVE DECRYPTED CONTENT PLAYED BACK BY PLAYBACK UNIT 37
S56
END

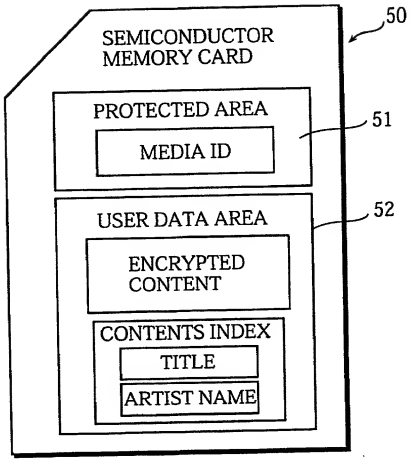
09/890769

FIG. 16

09/890769

FIG. 17

FIG. 18


SEMICONDUCTOR
MEMORY CARD
50
PROTECTED AREA
MEDIA ID
51
USER DATA AREA
52
ENCRYPTED
CONTENT
CONTENTS INDEX
TITLE
ARTIST NAME

09/890769

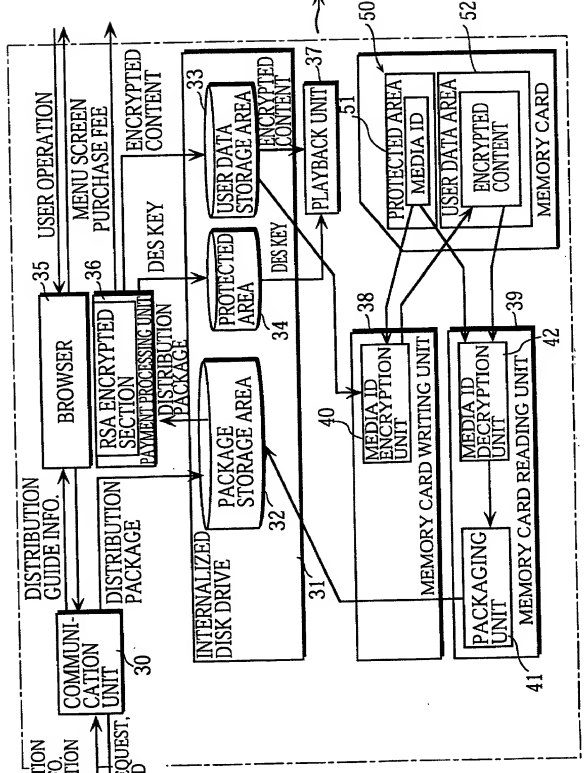


FIG. 19

FIG. 20

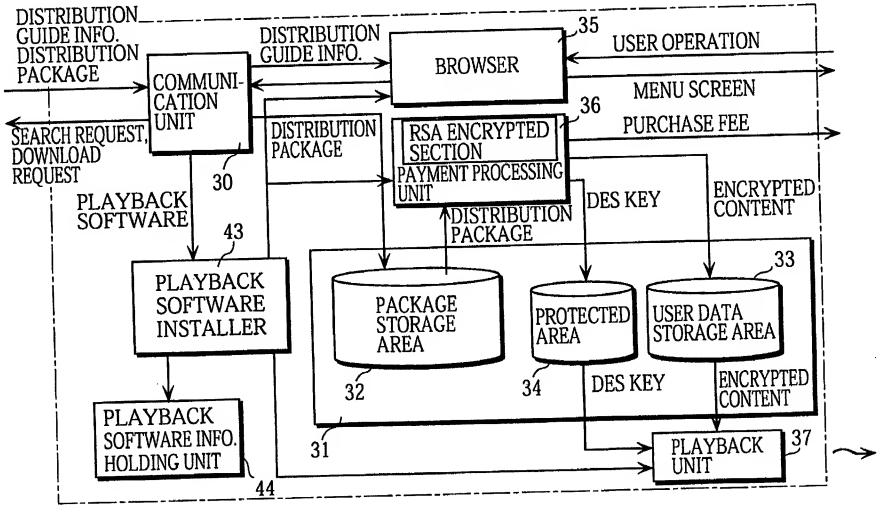
USER DATA AREA
ENCRYPTED CONTENT
②
38
40
MEDIA ID ENCRYPTION UNIT
MEMORY CARD WRITING UNIT
①
③
50
51
52
PROTECTED AREA
MEDIA ID
USER DATA AREA
ENCRYPTED CONTENT
MEMORY CARD

FIG. 21

REFERENCE SERVER
112
CONTENT INDEX
③
(TITLE ARTIST)
④
DISTRIBUTION GUIDE INFO. FOR DISTRIBUTION SERVER
COMMUNI-CATION UNIT
30
⑤
DOWNLOAD REQUEST
⑥
RSA ENCRYPTION UNIT
DISTRIBUTION SERVER
101~108
⑦
RSA ENCRYPTION UNIT
PACKAGING UNIT
ENCRYPTED CONTENT
MEDIA ID ENCRYPTION UNIT
②
MEMORY CARD WRITING UNIT
41
39
42
⑧
DISTRIBUTION PACKAGE
USER DATA AREA
32
MEDIA ID
①
ENCRYPTED CONTENT
50
51
PROTECTED AREA
MEDIA ID
USER DATA AREA
ENCRYPTED CONTENT
MEMORY CARD
52

T0E080'69Z06860

FIG. 22



09/890769
PCT/US00/32756

T05080"63706363

FIG. 23

09/890769

FIG. 24